



C045SEQLIST.TXT
SEQUENCE LISTING

<110> Biogen Idec Ma Inc.
NSGene
Johansen, Teit E.
Sah, Dinah Wen-Yee
Rossomando, Anthony

<120> Novel Neurotrophic Factors

<130> C045 US CP2

<140> 10/661,984
<141> 2003-09-12

<150> PCT
<151> 2002-02-28

<150> Danish 1998 00904
<151> 1998-07-06

<150> 60/092229
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<221> misc_structure
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<222> (426)...(623)

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atg cct gcc	ctg tgg ccc	acc ctg gcc	gct ctg gct	ctg ctg agc	agc agc	167
Met Pro Ala	Leu Trp Pro	Thr Leu Ala	Ala Leu Ala	Leu Leu Ser	Ser Ser	
-20	-15	-10	-5			

gtc gca gag gcc tcc ctg ggc tcc gcg ccc cgc agc cct gcc ccc cgc	215
Val Ala Glu Ala Ser Leu Gly Ser Ala Pro Arg Ser Pro Ala Pro Arg	
1 5 10	

gaa ggc ccc ccg cct gtc ctg gcg tcc ccc gcc ggc cac ctg ccg ggg	263
Glu Gly Pro Pro Pro Val Leu Ala Ser Pro Ala Gly His Leu Pro Gly	
15 20 25	

gga cgc acg gcc cgc tgg tgc agt gga aga gcc cgg cgg ccg cgc cgc	311
Gly Arg Thr Ala Arg Trp Cys Ser Gly Arg Ala Arg Arg Pro Arg Arg	
30 35 40	

aga cac ttc tcg gcc cgc gcc ccc gcc gcc tgc acc ccc atc tgc tct	359
Arg His Phe Ser Ala Arg Ala Pro Ala Ala Cys Thr Pro Ile Cys Ser	
45 50 55 60	

tcc ccg cgg gtc cgc gcg gcg cgg ctg ggg ggc cgg gca gcg cgc tcg	407
Ser Pro Arg Val Arg Ala Ala Arg Leu Gly Gly Arg Ala Ala Arg Ser	
65 70 75	

ggc agc ggg ggc gcg ggg tgc cgc ctg cgc tcg cag ctg gtg ccg gtg	455
Gly Ser Gly Gly Ala Gly Cys Arg Leu Arg Ser Gln Leu Val Pro Val	
80 85 90	

cgc gcg ctc ggc ctg ggc cac cgc tcc gac gag ctg gtg cgt ttc cgc	503
Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg	
95 100 105	

ttc tgc acc ggc tcc tgc ccg cgc gcg cgc tct cca cac gac ctc agc	551
Phe Cys Thr Gly Ser Cys Pro Arg Ala Arg Ser Pro His Asp Leu Ser	
110 115 120	

ctg gcc agc cta ctg ggc gcc ggg gcc ctg cga ccg ccc ccg ggc tcc	599
Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser	
125 130 135 140	

cgg ccc gtc agc cag ccc tgc tgc cga ccc acg cgc tac gaa gcg gtc	647
Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val	
145 150 155	

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tcc ttc atg gac gtc aac agc acc tgg aga acc gtg gac cgc ctc tcc 695
 Ser Phe Met Asp Val Asn Ser Thr Trp Arg Thr Val Asp Arg Leu Ser
 160 165 170

gcc acc gcc tgc ggc tgc ctg ggc tgagggctcg ctccagggct ttgcagactg 749
 Ala Thr Ala Cys Gly Cys Leu Gly
 175 180

gacccttacc ggtggctctt cctgcctggg accctcccgc agagtccac tagccagcgg 809
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 Glu Gly Pro Pro Pro Val Leu Ala Ser Pro Ala Gly His Leu Pro Gly
 35 40 45
 Gly Arg Thr Ala Arg Trp Cys Ser Gly Arg Ala Arg Arg Pro Arg Arg
 50 55 60
 Arg His Phe Ser Ala Arg Ala Pro Ala Ala Cys Thr Pro Ile Cys Ser
 65 70 75 80
 Ser Pro Arg Val Arg Ala Ala Arg Leu Gly Gly Arg Ala Ala Arg Ser
 85 90 95
 Gly Ser Gly Gly Ala Gly Cys Arg Leu Arg Ser Gln Leu Val Pro Val
 100 105 110
 Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg
 115 120 125
 Phe Cys Thr Gly Ser Cys Pro Arg Ala Arg Ser Pro His Asp Leu Ser
 130 135 140
 Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser
 145 150 155 160
 Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val
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 Ser Phe Met Asp Val Asn Ser Thr Trp Arg Thr Val Asp Arg Leu Ser
 180 185 190
 Ala Thr Ala Cys Gly Cys Leu Gly
 195 200

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<223> CARBOHYD: Glycosylated Asparagine as ASN122

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<221> misc_structure
<222> (505)...(705)
<223> DISULFID: Cys70-Cys136 disulfide bridge

<221> misc_structure
<222> (517)...(711)
<223> DISULFID: Cys74-Cys138 disulfide bridge

<221> misc_structure
<222> (616)...(618)
<223> DISULFID: Cys107-Cys107 interchain disulfide bridge

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-55 -50 -45

gtc ctt cct ccc caa gcc cac ctg ggt gcc ctc ttt ctc cct gag gct 96
Val Leu Pro Pro Gln Ala His Leu Gly Ala Leu Phe Leu Pro Glu Ala
-40 -35 -30

cca ctt ggt ctc tcc gcg cag cct gcc ctg tgg ccc acc ctg gcc gct 144
Pro Leu Gly Leu Ser Ala Gln Pro Ala Leu Trp Pro Thr Leu Ala Ala
-25 -20 -15

ctg gct ctg ctg agc agc gtc gca gag gcc tcc ctg ggc tcc gcg ccc 192
Leu Ala Leu Leu Ser Ser Val Ala Glu Ala Ser Leu Gly Ser Ala Pro
-10 -5 1 5

cgc agc cct gcc ccc cgc gaa ggc ccc ccg cct gtc ctg gcg tcc ccc 240
Arg Ser Pro Ala Pro Arg Glu Gly Pro Pro Pro Val Leu Ala Ser Pro
10 15 20

gcc ggc cac ctg ccg ggg gga cgc acg gcc cgc tgg tgc agt gga aga 288
Ala Gly His Leu Pro Gly Gly Arg Thr Ala Arg Trp Cys Ser Gly Arg
25 30 35

gcc cgg cgg ccg ccg ccg cag cct tct cgg ccc gcg ccc ccg ccg cct 336
Ala Arg Arg Pro Pro Pro Gln Pro Ser Arg Pro Ala Pro Pro Pro Pro
40 45 50

gca ccc cca tct gct ctt ccc cgc ggg ggc cgc gcg gcg cgg gct ggg 384
Ala Pro Pro Ser Ala Leu Pro Arg Gly Gly Arg Ala Ala Arg Ala Gly
55 60 65 70

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ggc ccg ggc aac cgc gct cgg gca gcg ggg gcg cgg ggc tgc cgc ctg 432
Gly Pro Gly Asn Arg 75 Ala Arg Ala Ala Gly 80 Ala Arg Gly Cys Arg 85 Leu

cgc tcg cag ctg gtg ccg gtg cgc gcg ctc ggc ctg ggc cac cgc tcc 480
Arg Ser Gln Leu Val Pro Val Arg Ala 95 Leu Gly Leu Gly His 100 Arg Ser

gac gag ctg gtg cgt ttc cgc ttc tgc agc ggc tcc tgc cgc cgc gcg 528
Asp Glu Leu Val Arg Phe Arg Phe 110 Cys Ser Gly Ser Cys 115 Arg Arg Ala

cgc tct cca cac gac ctc agc ctg gcc agc cta ctg ggc gcc ggg gcc 576
Arg Ser 120 Pro His Asp Leu 125 Leu Ala Ser Leu 130 Gly Ala Gly Ala

ctg cga ccg ccc ccg ggc tcc cgg ccc gtc agc cag ccc tgc tgc cga 624
Leu Arg Pro Pro Pro Gly 140 Ser Arg Pro Val 145 Ser Gln Pro Cys Cys Arg 150

ccc acg cgc tac gaa gcg gtc tcc ttc atg gac gtc aac agc acc tgg 672
Pro Thr Arg Tyr Glu 155 Ala Val Ser Phe 160 Met Asp Val Asn Ser Thr Trp 165

aga acc gtg gac cgc ctc tcc gcc aac ccc tgc ggc tgc ctg ggc 717
Arg Thr Val 170 Asp Arg Leu Ser Ala 175 Pro Cys Gly Cys 180 Leu Gly

tgagggctcg ctccagggct ttgcagactg gacccttacc ggtggctctt cctgcctggg 777
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<213> Homo Sapiens

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20 25 30
Gly Leu Ser Ala Gln Pro Ala Leu Trp Pro Thr Leu Ala Ala Leu Ala
35 40 45
Leu Leu Ser Ser Val Ala Glu Ala Ser Leu Gly Ser Ala Pro Arg Ser
50 55 60
Pro Ala Pro Arg Glu Gly Pro Pro Pro Val Leu Ala Ser Pro Ala Gly
65 70 75 80
His Leu Pro Gly Gly Arg Thr Ala Arg Trp Cys Ser Gly Arg Ala Arg
85 90 95
Arg Pro Pro Pro Gln Pro Ser Arg Pro Ala Pro Pro Pro Pro Ala Pro
100 105 110
Pro Ser Ala Leu Pro Arg Gly Gly Arg Ala Ala Arg Ala Gly Gly Pro
115 120 125
Gly Asn Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser
130 135 140
Gln Leu Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu
145 150 155 160
Leu Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser
165 170 175
Pro His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg
180 185 190

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Pro Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr
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 Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr Trp Arg Thr
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 225 230 235

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<221> VARIANT
 <222> 134, 135
 <223> Xaa = Any Amino Acid

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 Asn Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln
 35 40 45
 Leu Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu
 50 55 60
 Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro
 65 70 75 80
 His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro
 85 90 95
 Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg
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 <222> 110, 111
 <223> Xaa = Any Amino Acid

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 Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg Phe Cys Ser Gly
 35 40 45
 Ser Cys Arg Arg Ala Arg Ser Pro His Asp Leu Ser Leu Ala Ser Leu
 50 55 60
 Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg Pro Val Ser
 65 70 75 80
 Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp

C045SEQLIST.TXT

Val Asn Ser Thr Trp Arg Thr Val Asp Arg Leu Ser Ala Xaa Xaa Cys
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 100 105 110
 Gly Cys Leu Gly
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<210> 7
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<221> VARIANT
 <222> 107, 108
 <223> Xaa = Any Amino Acid

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 20 25 30
 Arg Ser Asp Glu Leu Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg
 35 40 45
 Arg Ala Arg Ser Pro His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala
 50 55 60
 Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys
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 100 105 110
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 <223> CARBOHYD: Glycosylated asparagine at Asn122

<221> misc_structure
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<221> misc_structure
 <222> (505)...(705)
 <223> DISULFID: Gly70-Gly136 disulfide bridge

<221> misc_structure
 <222> (517)...(711)
 <223> DISULFID: Gly74-Gly138 disulfide bridge

<221> misc_structure
 <222> (616)...(618)
 <223> DISULFID: Gly107-Gly107 interchain disulfide
 bridge

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 Glu Leu Gly Leu Gly Gly Leu Ser Thr Leu Ser His Cys Pro Trp Pro
 -35 -30 -25

agg cgg cag cct gcc ctg tgg ccc acc ctg gcc gct ctg gct ctg ctg 156
 Arg Arg Gln Pro Ala Leu Trp Pro Thr Leu Ala Ala Leu Ala Leu Leu
 -20 -15 -10

agc agc gtc gca gag gcc tcc ctg ggc tcc gcg ccc cgc agc cct gcc 204
 Ser Ser Val Ala Glu Ala Ser Leu Gly Ser Ala Pro Arg Ser Pro Ala
 -5 1 5 10

ccc cgc gaa ggc ccc ccg cct gtc ctg gcg tcc ccc gcc ggc cac ctg 252
 Pro Arg Glu Gly Pro Pro Pro Val Leu Ala Ser Pro Ala Gly His Leu
 15 20 25

ccg ggg gga cgc acg gcc cgc tgg tgc agt gga aga gcc cgg cgg ccg 300
 Pro Gly Gly Arg Thr Ala Arg Trp Cys Ser Gly Arg Ala Arg Arg Pro
 30 35 40

ccg ccg cag cct tct cgg ccc gcg ccc ccg ccg cct gca ccc cca tct 348
 Pro Pro Gln Pro Ser Arg Pro Ala Pro Pro Pro Pro Ala Pro Pro Ser
 45 50 55

gct ctt ccc cgc ggg ggc cgc gcg gcg cgg gct ggg ggc ccg ggc agc 396
 Ala Leu Pro Arg Gly Gly Arg Ala Ala Arg Ala Gly Gly Pro Gly Ser
 60 65 70

cgc gct cgg gca gcg ggg gcg cgg ggc tgc cgc ctg cgc tcg cag ctg 444
 Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln Leu
 75 80 85 90

gtg ccg gtg cgc gcg ctc ggc ctg ggc cac cgc tcc gac gag ctg gtg 492
 Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu Val
 95 100 105

C045SEQLIST.TXT

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 110 115 120
 gac ctc agc ctg gcc agc cta ctg ggc gcc ggg gcc ctg cga ccg ccc 588
 Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro
 125 130 135
 ccg ggc tcc cgg ccc gtc agc cag ccc tgc tgc cga ccc acg cgc tac 636
 Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr
 140 145 150
 gaa gcg gtc tcc ttc atg gac gtc aac agc acc tgg aga acc gtg gac 684
 Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr Trp Arg Thr Val Asp
 155 160 165 170
 cgc ctc tcc gcc acc gcc tgc ggc tgc ctg ggc tgagggctcg ctccagggct 737
 Arg Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
 175 180
 ttgcagactg gacccttacc ggtggctctt cctgcctggg accctcccgc agagtccac 797
 tagccagcgg cctcagccag ggacgaaggc ctcaaagctg agaggcccct accggtgggt 857
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 <213> Homo Sapiens

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 35 40 45
 Ala Pro Arg Glu Gly Pro Pro Val Leu Ala Ser Pro Ala Gly His
 50 55 60
 Leu Pro Gly Gly Arg Thr Ala Arg Trp Cys Ser Gly Arg Ala Arg Arg
 65 70 75 80
 Pro Pro Pro Gln Pro Ser Arg Pro Ala Pro Pro Pro Pro Ala Pro Pro
 85 90 95
 Ser Ala Leu Pro Arg Gly Gly Arg Ala Ala Arg Ala Gly Gly Pro Gly
 100 105 110
 Ser Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln
 115 120 125
 Leu Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu
 130 135 140
 Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro
 145 150 155 160
 His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro
 165 170 175
 Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg
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<210> 10
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C045SEQLIST.TXT

<213> Homo Sapiens

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<222> (122)...(122)

<223> glycosylated asparagine

<400> 10

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20      25      30
Ser Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln
35      40      45
Leu Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu
50      55      60
Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro
65      70      75      80
His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro
85      90      95
Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg
100     105     110
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115     120     125
Asp Arg Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
130     135     140

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<210> 11

<211> 116

<212> PRT

<213> Homo Sapiens

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<222> (98)...(98)

<223> glycosylated asparagine

<400> 11

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20      25      30
Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg Phe Cys Ser Gly
35      40      45
Ser Cys Arg Arg Ala Arg Ser Pro His Asp Leu Ser Leu Ala Ser Leu
50      55      60
Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg Pro Val Ser
65      70      75      80
Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp
85      90      95
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100     105     110
Gly Cys Leu Gly
115

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<210> 12

<211> 113

<212> PRT

<213> Homo Sapiens

<220>

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<221> CARBOHYD
 <222> (95)...(95)
 <223> glycosylated asparagine

<400> 12

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Arg	Leu	Arg	Ser	Gln	Leu	Val	Pro	Val	Arg	Ala	Leu	Gly	Leu	Gly	His
			20					25					30		
Arg	Ser	Asp	Glu	Leu	Val	Arg	Phe	Arg	Phe	Cys	Ser	Gly	Ser	Cys	Arg
		35					40					45			
Arg	Ala	Arg	Ser	Pro	His	Asp	Leu	Ser	Leu	Ala	Ser	Leu	Leu	Gly	Ala
	50					55					60				
Gly	Ala	Leu	Arg	Pro	Pro	Pro	Gly	Ser	Arg	Pro	Val	Ser	Gln	Pro	Cys
65				70					75					80	
Cys	Arg	Pro	Thr	Arg	Tyr	Glu	Ala	Val	Ser	Phe	Met	Asp	Val	Asn	Ser
				85					90					95	
Thr	Trp	Arg	Thr	Val	Asp	Arg	Leu	Ser	Ala	Thr	Ala	Cys	Gly	Cys	Leu
			100					105					110		

Gly

<210> 13

<211> 102

<212> DNA

<213> Homo Sapiens

<400> 13

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ccagccctgc	tgccgaccca	cgcgctacga	agcggctctc	tt		102

<210> 14

<211> 220

<212> DNA

<213> Murinae gen. sp.

<400> 14

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cccgggtccc	ggccgatcag	ccagccctgc	tgccggccca	ctcgctatga	ggccgtctcc	180
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<212> DNA

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<221> CDS

<222> (975)...(1646)

<400> 15

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cggatccgga	gggtggagcg	gccagggtgag	ccctgaaagg	tggggcgggg	cgggggcgct	180
ctgggcccc	ccccgggatc	tggtgacgcc	ggggctggaa	tttgacaccg	gacggcgggc	240
ggcaggagcg	tgctgaggga	tggagtgtgg	ctcggccccc	agatgcggcc	cgcgggctct	300
gccagcaaca	agtccctcgg	gccccagccc	tcgctgcgac	tggggcttgg	agccctgcac	360
ccaagggcac	agaccggctg	ccaaggcccc	acttttaact	aaaagaggcg	ctgccagggtg	420
cacaactctg	ggcatgatcc	acttgagctt	cgggggaaaag	cccagcactg	gtcccaggag	480
aggcgcctag	aaggacacgg	accaggaccc	ctttggtatg	gagtgaacgc	tgagcatgga	540
gtggaaggaa	ctcaagttag	tactttctcc	aaccaccctg	gtaccttcag	ccctgaagta	600

C045SEQLIST.TXT

cagagcagaa	gggtcttaga	agacaggacc	acagctgtgt	gagtctcccc	cctgaggcct	660
tagacgatct	ctgagctcag	ctgagctttg	tttgcccatc	tggagaagtg	agccattgat	720
tgacctgtg	gcatcgcgaa	ggaacaggtc	ctgccaagca	cctaacacag	agagcaagg	780
tctccatcgc	agctaccgct	gctgagttga	ctctagctac	tccaacctcc	tgggtcgctt	840
cgagagactg	gagtggaagg	aggaataccc	caaaggataa	ctaactcatc	tttcagtttg	900
caagctgccg	caggaagagg	gtggggaaac	gggtccacga	aggcttctga	tgggagcttc	960
tggagccgaa	agct atg gaa ctg gga ctt gca gag	cct act gca ttg tcc	1010			
	Met Glu Leu Gly Leu Ala Glu	Pro Thr Ala Leu Ser				
	1	5	10			
cac tgc ctc cgg cct agg tgg cag tca gcc tgg tgg cca acc cta gct	1058					
His Cys Leu Arg Pro Arg Trp Gln Ser Ala Trp Trp Pro Thr Leu Ala						
	15	20	25			
gtt cta gcc ctg ctg agc tgc gtc aca gaa gct tcc ctg gac cca atg	1106					
Val Leu Ala Leu Leu Ser Cys Val Thr Glu Ala Ser Leu Asp Pro Met						
	30	35	40			
tcc cgc agc ccc gcc gct cgc gac ggt ccc tca ccg gtc ttg gcg ccc	1154					
Ser Arg Ser Pro Ala Ala Arg Asp Gly Pro Ser Pro Val Leu Ala Pro						
	45	50	55	60		
ccc acg gac cac ctg cct ggg gga cac act gcg cat ttg tgc agc gaa	1202					
Pro Thr Asp His Leu Pro Gly Gly His Thr Ala His Leu Cys Ser Glu						
	65	70	75			
aga acc ctg cga ccc ccg cct cag tct cct cag ccc gca ccc ccg ccg	1250					
Arg Thr Leu Arg Pro Pro Gln Ser Pro Gln Pro Ala Pro Pro Pro						
	80	85	90			
cct ggt ccc gcg ctc cag tct cct ccc gct gcg ctc cgc ggg gca cgc	1298					
Pro Gly Pro Ala Leu Gln Ser Pro Pro Ala Ala Leu Arg Gly Ala Arg						
	95	100	105			
gcg gcg cgt gca gga acc cgg agc agc cgc gca cgg acc aca gat gcg	1346					
Ala Ala Arg Ala Gly Thr Arg Ser Ser Arg Ala Arg Thr Thr Asp Ala						
	110	115	120			
cgc ggc tgc cgc ctg cgc tcg cag ctg gtg ccg gtg agc gcg ctc ggc	1394					
Arg Gly Cys Arg Leu Arg Ser Gln Leu Val Pro Val Ser Ala Leu Gly						
	125	130	135	140		
cta ggc cac agc tcc gac gag ctg ata cgt ttc cgc ttc tgc agc ggc	1442					
Leu Gly His Ser Ser Asp Glu Leu Ile Arg Phe Arg Phe Cys Ser Gly						
	145	150	155			
tcg tgc cgc cga gca cgc tcc cag cac gat ctc agt ctg gcc agc cta	1490					
Ser Cys Arg Arg Ala Arg Ser Gln His Asp Leu Ser Leu Ala Ser Leu						
	160	165	170			
ctg ggc gct ggg gcc cta cgg tcg cct ccc ggg tcc cgg ccg atc agc	1538					
Leu Gly Ala Gly Ala Leu Arg Ser Pro Pro Gly Ser Arg Pro Ile Ser						
	175	180	185			
cag ccc tgc tgc cgg ccc act cgc tat gag gcc gtc tcc ttc atg gac	1586					
Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp						
	190	195	200			
gtg aac agc acc tgg agg acc gtg gac cac ctc tcc gcc act gcc tgc	1634					
Val Asn Ser Thr Trp Arg Thr Val Asp His Leu Ser Ala Thr Ala Cys						
	205	210	215	220		
ggc tgt ctg ggc tgaggatgat ctatctccaa gcctttgcac actagaccca	1686					

C045SEQLIST.TXT

Gly Cys Leu Gly

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tgtgttgccc tacctggaac agctccaccg ggcctcacta accaggagcc tcaactcagc 1746
aggatatgga ggctgcagag ctgaggcccc aggccggtga gtgacagacg tcgtcggcat 1806
gacagacaga gtgaaagatg tcggaaccac tgaccaacag tcccaagttg ttcattggatc 1866
ccagctctac agacaggaga aacctcagct aaagagaact cctctgggag aatccagaaa 1926
tggccctctg tcctggggaa tgaattttga agagatatat atacatatat acattgtagt 1986
cgcggtgctg gaccagcctg tgctgaaacc agtcccgtgt tcacttgtgg aagccgaagc 2046
cctatttatt atttctaaat tatttattta ctttgaaaaa aaacggccaa gtcggcctcc 2106
ctttagttag ggtaatttg tgatcccggg 2136

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<210> 16

<211> 224

<212> PRT

<213> Murinae gen. sp.

<400> 16

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Met Glu Leu Gly Leu Ala Glu Pro Thr Ala Leu Ser His Cys Leu Arg
 1          5          10          15
Pro Arg Trp Gln Ser Ala Trp Trp Pro Thr Leu Ala Val Leu Ala Leu
 20          25          30
Leu Ser Cys Val Thr Glu Ala Ser Leu Asp Pro Met Ser Arg Ser Pro
 35          40          45
Ala Ala Arg Asp Gly Pro Ser Pro Val Leu Ala Pro Pro Thr Asp His
 50          55          60
Leu Pro Gly Gly His Thr Ala His Leu Cys Ser Glu Arg Thr Leu Arg
 65          70          75          80
Pro Pro Pro Gln Ser Pro Gln Pro Ala Pro Pro Pro Pro Gly Pro Ala
 85          90          95
Leu Gln Ser Pro Pro Ala Ala Leu Arg Gly Ala Arg Ala Ala Arg Ala
100          105          110
Gly Thr Arg Ser Ser Arg Ala Arg Thr Thr Asp Ala Arg Gly Cys Arg
115          120          125
Leu Arg Ser Gln Leu Val Pro Val Ser Ala Leu Gly Leu Gly His Ser
130          135          140
Ser Asp Glu Leu Ile Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg
145          150          155          160
Ala Arg Ser Gln His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly
165          170          175
Ala Leu Arg Ser Pro Pro Gly Ser Arg Pro Ile Ser Gln Pro Cys Cys
180          185          190
Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr
195          200          205
Trp Arg Thr Val Asp His Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
210          215          220

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<210> 17

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 17

cctggccagc ctactggg

18

<210> 18

<211> 20

<212> DNA

<213> Artificial Sequence

C045SEQLIST.TXT

<220>
 <223> PCR Primer

 <400> 18
 aaggagaccg cttcgtagcg 20

 <210> 19
 <211> 17
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 19
 atggaacttg gacttgg 17

 <210> 20
 <211> 16
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 20
 tccatcaccc accggc 16

 <210> 21
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 21
 ggccaccgct ccgacgag 18

 <210> 22
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 22
 ggcggtccac ggttctccag 20

 <210> 23
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 23
 ccaagcccac ctgggtgccc tctttctcc 29

 <210> 24

C045SEQLIST.TXT

<211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 24
 catcaccac cggcaggggc ctctcag 27

 <210> 25
 <211> 35
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 25
 gagcccatgc ccggcctgat ctgagcccgga ggaca 35

 <210> 26
 <211> 34
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 26
 ccctggctga ggccgctggc tagtgggact ctgc 34

 <210> 27
 <211> 31
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Hybridization Probe

 <221> misc_feature
 <222> 1
 <223> n = A,T,C or G

 <400> 27
 ncaggtggtc cgtggggggc gccaaagaccg g 31

 <210> 28
 <211> 16
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR Primer

 <400> 28
 ctaggagccc atgccc 16

 <210> 29
 <211> 351
 <212> DNA
 <213> Homo Sapiens

C045SEQLIST.TXT

<400> 29

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atggctggag gaccgggata tcgtgctcgt gcagcaggag cacgtggctg tcgtctgcgt 60
tctcaactag tgccgggtgcg tgcactcggg ctgggacacc gttccgacga actagtacgt 120
tttcgttttt gttcaggatc ttgtcgtcgt gcacgttctc cgcattgatct atctctagca 180
tctctactag gagccggagc actaagaccg ccgccgggat ctagacctgt atctcaacct 240
tgtttagtag ctactagata cgaagcagta tctttcatgg acgtaaactc tacatggaga 300
accgtagata gactatctgc aaccgcatgt ggctgtctag gatgataata g 351

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<210> 30

<211> 414

<212> DNA

<213> Homo Sapiens

<400> 30

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atgggccatc atcatcatca tcatcatcat catcactcga gcggccatat cgacgacgac 60
gacaaggctg gaggaccggg atctcgtgct cgtgcagcag gagcacgtgg ctgtcgtctg 120
cgttctcaac tagtgccggg gcgtgcactc ggactgggac accgttccga cgaactagta 180
cgttttcgtt ttgtttcagg atcttgcgt cgtgcacgtt ctccgcatga tctatctcta 240
gcatctctac taggagccgg agcactaaga ccgccgccgg gatctagacc tgtatctcaa 300
ccttgttgta gacctactag atacgaagca gtatctttca tggacgtaaa ctctacatgg 360
agaaccgtag atagactatc tgcaaccgca tgtggctgtc taggatgata atag 414

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<210> 31

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 31

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aaggaaaaaa gcggccgcca tggaacttgg acttggagg 39

```

<210> 32

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 32

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ttttttcctt ggcggccgct cagcccaggc agccgcagg 39

```

<210> 33

<211> 16

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 33

```

gagcgagccc tcagcc 16

```

<210> 34

<211> 224

<212> PRT

<213> Rattus sp.

<400> 34

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Met Glu Leu Gly Leu Gly Glu Pro Thr Ala Leu Ser His Cys Leu Arg
1           5           10           15

```


C045SEQLIST.TXT

Pro Arg Trp Gln Pro Ala Leu Trp Pro Thr Leu Ala Ala Leu Ala Leu
 20 25 30
 Leu Ser Ser Val Thr Glu Ala Ser Leu Asp Pro Met Ser Arg Ser Pro
 35 40 45
 Ala Ser Arg Asp Val Pro Ser Pro Val Leu Ala Pro Thr Asp Tyr
 50 55 60
 Leu Pro Gly Gly His Thr Ala His Leu Cys Ser Glu Arg Ala Leu Arg
 65 70 75 80
 Pro Pro Pro Gln Ser Pro Gln Pro Ala Pro Pro Pro Gly Pro Ala
 85 90 95
 Leu Gln Ser Pro Ala Ala Leu Arg Gly Ala Arg Ala Ala Arg Ala
 100 105 110
 Gly Thr Arg Ser Ser Arg Ala Arg Ala Thr Asp Ala Arg Gly Cys Arg
 115 120 125
 Leu Arg Ser Gln Leu Val Pro Val Ser Ala Leu Gly Leu Gly His Ser
 130 135 140
 Ser Asp Glu Leu Ile Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg
 145 150 155 160
 Ala Arg Ser Pro His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly
 165 170 175
 Ala Leu Arg Ser Pro Pro Gly Ser Arg Pro Ile Ser Gln Pro Cys Cys
 180 185 190
 Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr
 195 200 205
 Trp Arg Thr Val Asp His Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
 210 215 220

<210> 35
 <211> 112
 <212> PRT
 <213> Homo Sapiens

<400> 35
 Gly Gly Pro Gly Ser Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg
 1 5 10 15
 Leu Arg Ser Gln Leu Val Pro Val Arg Ala Leu Gly Leu Gly His Arg
 20 25 30
 Ser Asp Glu Leu Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg
 35 40 45
 Ala Arg Ser Pro His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly
 50 55 60
 Ala Leu Arg Pro Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys
 65 70 75 80
 Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr
 85 90 95
 Trp Arg Thr Val Asp Arg Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
 100 105 110

<210> 36
 <211> 111
 <212> PRT
 <213> Homo Sapiens

<400> 36
 Gly Pro Gly Ser Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu
 1 5 10 15
 Arg Ser Gln Leu Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser
 20 25 30
 Asp Glu Leu Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala
 35 40 45
 Arg Ser Pro His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala

C045SEQLIST.TXT

50 55 60
 Leu Arg Pro Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg
 65 70 75 80
 Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr Trp
 85 90 95
 Arg Thr Val Asp Arg Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
 100 105 110

<210> 37
 <211> 110
 <212> PRT
 <213> Homo Sapiens

<400> 37
 Pro Gly Ser Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg
 1 5 10 15
 Ser Gln Leu Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp
 20 25 30
 Glu Leu Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg
 35 40 45
 Ser Pro His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu
 50 55 60
 Arg Pro Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro
 65 70 75 80
 Thr Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr Trp Arg
 85 90 95
 Thr Val Asp Arg Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
 100 105 110

<210> 38
 <211> 109
 <212> PRT
 <213> Homo Sapiens

<400> 38
 Gly Ser Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser
 1 5 10 15
 Gln Leu Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu
 20 25 30
 Leu Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser
 35 40 45
 Pro His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg
 50 55 60
 Pro Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr
 65 70 75 80
 Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr Trp Arg Thr
 85 90 95
 Val Asp Arg Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
 100 105

<210> 39
 <211> 108
 <212> PRT
 <213> Homo Sapiens

<400> 39
 Ser Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln
 1 5 10 15
 Leu Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu
 20 25 30

C045SEQLIST.TXT

Val Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro
 35 40 45
 His Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro
 50 55 60
 Pro Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg
 65 70 75 80
 Tyr Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr Trp Arg Thr Val
 85 90 95
 Asp Arg Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
 100 105

<210> 40

<211> 107

<212> PRT

<213> Homo Sapiens

<400> 40

Arg Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln Leu
 1 5 10 15
 Val Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu Val
 20 25 30
 Arg Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro His
 35 40 45
 Asp Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro
 50 55 60
 Pro Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr
 65 70 75 80
 Glu Ala Val Ser Phe Met Asp Val Asn Ser Thr Trp Arg Thr Val Asp
 85 90 95
 Arg Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
 100 105

<210> 41

<211> 106

<212> PRT

<213> Homo Sapiens

<400> 41

Ala Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln Leu Val
 1 5 10 15
 Pro Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu Val Arg
 20 25 30
 Phe Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro His Asp
 35 40 45
 Leu Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro
 50 55 60
 Gly Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu
 65 70 75 80
 Ala Val Ser Phe Met Asp Val Asn Ser Thr Trp Arg Thr Val Asp Arg
 85 90 95
 Leu Ser Ala Thr Ala Cys Gly Cys Leu Gly
 100 105

<210> 42

<211> 105

<212> PRT

<213> Homo Sapiens

<400> 42

Arg Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln Leu Val Pro

C045SEQLIST.TXT

```

1           5           10           15
Val Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe
                20           25           30
Arg Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro His Asp Leu
                35           40           45
Ser Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly
                50           55           60
Ser Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala
65           70           75           80
Val Ser Phe Met Asp Val Asn Ser Thr Trp Arg Thr Val Asp Arg Leu
                85           90           95
Ser Ala Thr Ala Cys Gly Cys Leu Gly
                100           105

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<210> 43
 <211> 104
 <212> PRT
 <213> Homo Sapiens

```

<400> 43
Ala Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln Leu Val Pro Val
1           5           10           15
Arg Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg
                20           25           30
Phe Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro His Asp Leu Ser
                35           40           45
Leu Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser
                50           55           60
Arg Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val
65           70           75           80
Ser Phe Met Asp Val Asn Ser Thr Trp Arg Thr Val Asp Arg Leu Ser
                85           90           95
Ala Thr Ala Cys Gly Cys Leu Gly
                100

```

<210> 44
 <211> 103
 <212> PRT
 <213> Homo Sapiens

```

<400> 44
Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln Leu Val Pro Val Arg
1           5           10           15
Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg Phe
                20           25           30
Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro His Asp Leu Ser Leu
                35           40           45
Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg
                50           55           60
Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser
65           70           75           80
Phe Met Asp Val Asn Ser Thr Trp Arg Thr Val Asp Arg Leu Ser Ala
                85           90           95
Thr Ala Cys Gly Cys Leu Gly
                100

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<210> 45
 <211> 102
 <212> PRT
 <213> Homo Sapiens

C045SEQLIST.TXT

<400> 45

Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln Leu Val Pro Val Arg Ala
 1 5 10 15
 Leu Gly Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg Phe Cys
 20 25 30
 Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro His Asp Leu Ser Leu Ala
 35 40 45
 Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg Pro
 50 55 60
 Val Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe
 65 70 75 80
 Met Asp Val Asn Ser Thr Trp Arg Thr Val Asp Arg Leu Ser Ala Thr
 85 90 95
 Ala Cys Gly Cys Leu Gly
 100

<210> 46

<211> 101

<212> PRT

<213> Homo Sapiens

<400> 46

Ala Arg Gly Cys Arg Leu Arg Ser Gln Leu Val Pro Val Arg Ala Leu
 1 5 10 15
 Gly Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg Phe Cys Ser
 20 25 30
 Gly Ser Cys Arg Arg Ala Arg Ser Pro His Asp Leu Ser Leu Ala Ser
 35 40 45
 Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg Pro Val
 50 55 60
 Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met
 65 70 75 80
 Asp Val Asn Ser Thr Trp Arg Thr Val Asp Arg Leu Ser Ala Thr Ala
 85 90 95
 Cys Gly Cys Leu Gly
 100

<210> 47

<211> 100

<212> PRT

<213> Homo Sapiens

<400> 47

Arg Gly Cys Arg Leu Arg Ser Gln Leu Val Pro Val Arg Ala Leu Gly
 1 5 10 15
 Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg Phe Cys Ser Gly
 20 25 30
 Ser Cys Arg Arg Ala Arg Ser Pro His Asp Leu Ser Leu Ala Ser Leu
 35 40 45
 Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg Pro Val Ser
 50 55 60
 Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp
 65 70 75 80
 Val Asn Ser Thr Trp Arg Thr Val Asp Arg Leu Ser Ala Thr Ala Cys
 85 90 95
 Gly Cys Leu Gly
 100

<210> 48

C045SEQLIST.TXT

<211> 99
 <212> PRT
 <213> Homo Sapiens

<400> 48

Gly Cys Arg Leu Arg Ser Gln Leu Val Pro Val Arg Ala Leu Gly Leu
 1 5 10 15
 Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg Phe Cys Ser Gly Ser
 20 25 30
 Cys Arg Arg Ala Arg Ser Pro His Asp Leu Ser Leu Ala Ser Leu Leu
 35 40 45
 Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg Pro Val Ser Gln
 50 55 60
 Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp Val
 65 70 75 80
 Asn Ser Thr Trp Arg Thr Val Asp Arg Leu Ser Ala Thr Ala Cys Gly
 85 90 95
 Cys Leu Gly

<210> 49
 <211> 197
 <212> PRT
 <213> Homo Sapiens

<400> 49

Met Gln Arg Trp Lys Ala Ala Ala Leu Ala Ser Val Leu Cys Ser Ser
 1 5 10 15
 Val Leu Ser Ile Trp Met Cys Arg Glu Gly Leu Leu Leu Ser His Arg
 20 25 30
 Leu Gly Pro Ala Leu Val Pro Leu His Arg Leu Pro Arg Thr Leu Asp
 35 40 45
 Ala Arg Ile Ala Arg Leu Ala Gln Tyr Arg Ala Leu Leu Gln Gly Ala
 50 55 60
 Pro Asp Ala Met Glu Leu Arg Glu Leu Thr Pro Trp Ala Gly Arg Pro
 65 70 75 80
 Pro Gly Pro Arg Arg Arg Ala Gly Pro Arg Arg Arg Ala Arg Ala
 85 90 95
 Arg Leu Gly Ala Arg Pro Cys Gly Leu Arg Glu Leu Glu Val Arg Val
 100 105 110
 Ser Glu Leu Gly Leu Gly Tyr Ala Ser Asp Glu Thr Val Leu Phe Arg
 115 120 125
 Tyr Cys Ala Gly Ala Cys Glu Ala Ala Ala Arg Val Tyr Asp Leu Gly
 130 135 140
 Leu Arg Arg Leu Arg Gln Arg Arg Arg Leu Arg Arg Glu Arg Val Arg
 145 150 155 160
 Ala Gln Pro Cys Cys Arg Pro Thr Ala Tyr Glu Asp Glu Val Ser Phe
 165 170 175
 Leu Asp Ala His Ser Arg Tyr His Thr Val His Glu Leu Ser Ala Arg
 180 185 190
 Glu Cys Ala Cys Val
 195

<210> 50
 <211> 156
 <212> PRT
 <213> Homo Sapiens

<400> 50

Met Ala Val Gly Lys Phe Leu Leu Gly Ser Leu Leu Leu Leu Ser Leu
 1 5 10 15

C045SEQLIST.TXT

Gln Leu Gly Gln Gly Trp Gly Pro Asp Ala Arg Gly Val Pro Val Ala
 20 25 30
 Asp Gly Glu Phe Ser Ser Glu Gln Val Ala Lys Ala Gly Gly Thr Trp
 35 40 45
 Leu Gly Thr His Arg Pro Leu Ala Arg Leu Arg Arg Ala Leu Ser Gly
 50 55 60
 Pro Cys Gln Leu Trp Ser Leu Thr Leu Ser Val Ala Glu Leu Gly Leu
 65 70 75 80
 Gly Tyr Ala Ser Glu Lys Val Ile Phe Arg Tyr Cys Ala Gly Ser
 85 90 95
 Cys Pro Arg Gly Ala Arg Thr Gln His Gly Leu Ala Leu Ala Arg Leu
 100 105 110
 Gln Gly Gln Gly Arg Ala His Gly Gly Pro Cys Cys Arg Pro Thr Arg
 115 120 125
 Tyr Thr Asp Val Ala Phe Leu Asp Asp Arg His Arg Trp Gln Arg Leu
 130 135 140
 Pro Gln Leu Ser Ala Ala Ala Cys Gly Cys Gly Gly
 145 150 155

<210> 51
 <211> 211
 <212> PRT
 <213> Homo Sapiens

<400> 51
 Met Lys Leu Trp Asp Val Val Ala Val Cys Leu Val Leu Leu His Thr
 1 5 10 15
 Ala Ser Ala Phe Pro Leu Pro Ala Gly Lys Arg Pro Pro Glu Ala Pro
 20 25 30
 Ala Glu Asp Arg Ser Leu Gly Arg Arg Arg Ala Pro Phe Ala Leu Ser
 35 40 45
 Ser Asp Ser Asn Met Pro Glu Asp Tyr Pro Asp Gln Phe Asp Asp Val
 50 55 60
 Met Asp Phe Ile Gln Ala Thr Ile Lys Arg Leu Lys Arg Ser Pro Asp
 65 70 75 80
 Lys Gln Met Ala Val Leu Pro Arg Arg Glu Arg Asn Arg Gln Ala Ala
 85 90 95
 Ala Ala Asn Pro Glu Asn Ser Arg Gly Lys Gly Arg Arg Gly Gln Arg
 100 105 110
 Gly Lys Asn Arg Gly Cys Val Leu Thr Ala Ile His Leu Asn Val Thr
 115 120 125
 Asp Leu Gly Leu Gly Tyr Glu Thr Lys Glu Glu Leu Ile Phe Arg Tyr
 130 135 140
 Cys Ser Gly Ser Cys Asp Ala Ala Glu Thr Thr Tyr Asp Lys Ile Leu
 145 150 155 160
 Lys Asn Leu Ser Arg Asn Arg Arg Leu Val Ser Asp Lys Val Gly Gln
 165 170 175
 Ala Cys Cys Arg Pro Ile Ala Phe Asp Asp Asp Leu Ser Phe Leu Asp
 180 185 190
 Asp Asn Leu Val Tyr His Ile Leu Arg Lys His Ser Ala Lys Arg Cys
 195 200 205
 Gly Cys Ile
 210

<210> 52
 <211> 365
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: synthetic gene

C045SEQLIST.TXT

for Neublabin

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<400> 52
taccatggct ggaggaccgg gatctcgtgc tcgtgcagca ggagcacgtg gctgtcgtct 60
gcgttctcaa ctagtgccgg tgcgtgcact cggactggga caccgttccg acgaactagt 120
acgttttcgt ttttgttcag gatcttgtcg tcgtgcacgt tctccgcatg atctatctct 180
agcatctcta ctaggagccg gagcactaag accgccgccg ggatctagac ctgtatctca 240
accttggtgt agacctacta gatacgaagc agtatctttc atggacgtaa actctacatg 300
gagaaccgta gatagactat ctgcaaccgc atgtggctgt ctaggatgat aatagggatc 360
cggct

```

```

<210> 53
<211> 365
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence: synthetic gene
      for Neublabin

```

```

<400> 53
atggtaccga cctcctggcc cttagagcacg agcacgtcgt cctcgtgcac cgacagcaga 60
cgcaagagtt gatcacggcc acgcacgtga gcctgaccct gtggcaaggc tgcttgatca 120
tgcaaaagca aaaacaagtc ctagaacagc agcacgtgca agaggcgtac tagatagaga 180
tcgtagagat gatcctcggc ctcgtgattc tggcggcggc cctagatctg gacatagagt 240
tggaacaaca tctggatgat ctatgcttcg tcatagaaag tacctgcatt tgagatgtac 300
ctcttggcat ctatctgata gacgttggcg tacaccgaca gatcctacta ttatccctag 360
gccga

```

```

<210> 54
<211> 114
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence: synthetic gene
      for Neublabin

```

```

<400> 54
Met Ala Gly Gly Pro Gly Ser Arg Ala Arg Ala Ala Gly Ala Arg Gly
 1           5           10           15
Cys Arg Leu Arg Ser Gln Leu Val Pro Val Arg Ala Leu Gly Leu Gly
          20           25           30
His Arg Ser Asp Glu Leu Val Arg Phe Arg Phe Cys Ser Gly Ser Cys
        35           40           45
Arg Arg Ala Arg Ser Pro His Asp Leu Ser Leu Ala Ser Leu Leu Gly
       50           55           60
Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg Pro Val Ser Gln Pro
      65           70           75           80
Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser Phe Met Asp Val Asn
          85           90           95
Ser Thr Trp Arg Thr Val Asp Arg Leu Ser Ala Thr Ala Cys Gly Cys
        100          105          110
Leu Gly

```

```

<210> 55
<211> 442
<212> DNA
<213> Artificial Sequence

```

```

<220>

```


C045SEQLIST.TXT

<223> Description of Artificial Sequence: synthetic gene
for HisNeublastin

<400> 55

```
taccatgggc catcatcatc atcatcatca tcatcatcac tcgagcggcc atatcgacga 60
cgacgacaag gctggaggac cgggatctcg tgctcgtgca gcaggagcac gtggctgtcg 120
tctgcgttct caactagtgc cggtgctgct actcggactg ggacaccggt cgcacgaact 180
agtacgtttt cgtttttgtt caggatcttg tcgtcgtgca cgttctccgc atgatctatc 240
tctagcatct ctactaggag ccggagcact aagaccgccg ccgggatcta gacctgtatc 300
tcaaccctgt ttagaccta ctagatacga agcagtatct ttcatggacg taaactctac 360
atggagaacc gtagatagac tatctgcaac cgcagtgtggc tgtctaggat gataataggg 420
atccggtgc taacaaagcc cg                                     442
```

<210> 56

<211> 442

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic gene
for HisNeublastin

<400> 56

```
atggtacccg gtagtagtag tagtagtagt agtagtagtg agctcgccgg tatagctgct 60
gctgctgttc cgacctcttg gccctagagc acgagcacgt cgtcctcgtg caccgacagc 120
agacgcaaga gttgatcacg gccacgcacg tgagcctgac cctgtggcaa ggctgcttga 180
tcatgcaaaa gcaaaaacaa gtcctagaac agcagcacgt gcaagaggcg tactagatag 240
agatcgtaga gatgatcctc ggccctcgta ttctggcggc ggccctagat ctggacatag 300
agttggaaca acatctggat gatctatgct tcgtcataga aagtacctgc atttgagatg 360
tacctcttgg catctatctg atagacgttg gcgtacaccg acagatccta ctattatccc 420
taggccgacg attgtttcgg gc                                     442
```

<210> 57

<211> 135

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
HisNeublastin

<400> 57

```
Met Gly His His His His His His His His His Ser Ser Gly His
1      5      10     15
Ile Asp Asp Asp Asp Lys Ala Gly Gly Pro Gly Ser Arg Ala Arg Ala
20     25     30
Ala Gly Ala Arg Gly Cys Arg Leu Arg Ser Gln Leu Val Pro Val Arg
35     40     45
Ala Leu Gly Leu Gly His Arg Ser Asp Glu Leu Val Arg Phe Arg Phe
50     55     60
Cys Ser Gly Ser Cys Arg Arg Ala Arg Ser Pro His Asp Leu Ser Leu
65     70     75     80
Ala Ser Leu Leu Gly Ala Gly Ala Leu Arg Pro Pro Pro Gly Ser Arg
85     90     95
Pro Val Ser Gln Pro Cys Cys Arg Pro Thr Arg Tyr Glu Ala Val Ser
100    105    110
Phe Met Asp Val Asn Ser Thr Trp Arg Thr Val Asp Arg Leu Ser Ala
115    120    125
Thr Ala Cys Gly Cys Leu Gly
130    135
```



maxell



SEQUENCE LISTING

USPN: 10/661,684; 9-12-2003

"NOVEL NEUROTROPHIC FACTORS"

BIGGEN Ref: C045 DS CIP2

FASTSEQ 4.0